

# Inward & Outward Effectiveness of Cloth Masks, A Surgical Mask, & a Face Shield

The *New York Times* described NanoEarth's Deputy Director Linsey Marr as "one of the world's leading experts on airborne transmission of viruses" and has relied on her heavily for their coverage of the COVID-19 pandemic. In addition to performing research on the efficacy of homemade masks, she has been a key public-health figure in the fight against COVID-19 for numerous media outlets and has been active on Twitter (@linseymarr) to keep the public informed. She excels at taking complicated scientific concepts and describing them in a way that the general public understands. For example, to help people visualize the aerosols we generate by breathing, she compares them to cigarette smoke and when asked about indoor versus outdoor air, she developed an analogy of putting a drop of dye into a glass of water (indoors) versus into the ocean (outdoors).

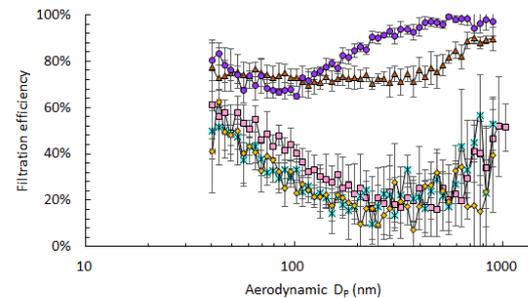
Jin Pan, Charbel Harb, Weinan Leng, and Linsey C. Marr, Civil and Environmental Engineering, Virginia Tech. medRxiv preprint: <https://doi.org/10.1101/2020.11.18.20233353>

National Research Priority: COVID-19, NSF-Growing Convergence

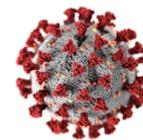
## The New York Times

### The Scientist, the Air and the Virus

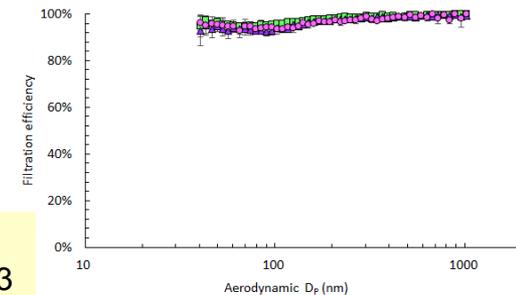
Most of us had never heard of aerosol science before the pandemic. Then Virginia Tech's Linsey Marr showed up and became our tour guide to the invisible world of airborne particles.



■ Hanes t-shirt      ▲ Microfiber cloth      ◆ AirLife CPAP  
✦ ToolBox shop towel      ◇ ToolBox white rag



SARS-CoV-2  
120 nm



■ SafetyPlus\_ctrl      ▲ SafetyPlus\_EtO (5 cycles)      ◆ SafetyPlus\_EtO (10 cycles)